

National Institute of Technology , Raipur (C.G.)													
M.Tech. in Mechanical Engineering with specialization in Thermal Engineering Started in 2010													
Course of Study & Scheme of Examination									M.Tech. <i>First</i> Semester			Branch: Mechanical	
S. No.	Board of Studies	Course Code	Subject Name	Periods / week			Examination Scheme					Total Marks	Credits <i>L+(T+P)/2</i>
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME41111ME	Advanced Numerical Techniques	3	1	-	20	15	15	100	-	150	4
2	Mechanical	ME41112ME	Advanced Thermodynamics	3	1	-	20	15	15	100	-	150	4
3	Mechanical	ME41113ME	Heat Transfer-I Conductive and Radiative Heat Transfer	3	1	-	20	15	15	100	-	150	4
4	Mechanical	ME41115ME	Refrigeration System Component Design	3	1	-	20	15	15	100	-	150	4
5	Mechanical	ME41135ME	Elective -I	3	1	-	20	15	15	100	-	150	4
6	Mechanical	ME41126ME	Lab - I Experiments on Heat Transfer	-	-	3	75	-	-	-	50	125	2
7	Mechanical	ME41127ME	Lab - II Experiments on Refrigeration Systems	-	-	3	75	-	-	-	50	125	2
			Total	15	5	6	250	75	75	500	100	1000	24

Elective-I

01. Heat Exchanger Design
02. Gas Dynamics and Flow Through Turbo-machines
03. Noise Pollution and Monitoring Instrumentation
04. Power Plant Engineering
05. Compressible Fluid Flow
06. Advanced Finite Element Method
07. Material Processing for Turbo Machinery Components
08. Material Handling System

Elective- I

09. Maintenance of Thermal Power Plant Equipments
10. Aerodynamics
11. Industrial Food Preservation
12. Advanced I C Engines
13. Solar Refrigeration and Air Conditioning
14. Optimisation Techniques
15. Environmental Pollution and control
16. Combustion Generated Pollution in I C Engines

National Institute of Technology , Raipur (C.G.)													
M.Tech. in Mechanical Engineering with specialization in Thermal Engineering Started in 2010													
Course of Study & Scheme of Examination										MTech. <i>Second</i> Semester		Branch: Mechanical	
S. No.	Board of Studies	Course Code	Subject Name	Periods / week			Examination Scheme					Total Marks	Credits $L+(T+P)/2$
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME41211ME	Computational Fluid Dynamics	3	1	-	20	15	15	100	-	150	4
2	Mechanical	ME41212ME	Heat Transfer-II Convective Heat Transfer	3	1	-	20	15	15	100	-	150	4
3	Mechanical	ME41213ME	Advanced Fluid Mechanics	3	1	-	20	15	15	100	-	150	4
4	Mechanical	ME41234ME	Elective-II	3	1	-	20	15	15	100	-	150	4
5	Mechanical	ME41245ME	Elective-III	3	1	-	20	15	15	100	-	150	4
6	Mechanical	ME41226ME	Lab - I CFD	-	-	3	75	-	-	-	50	125	2
7	Mechanical	ME41228ME	Lab - II (Seminar) *	-	-	3	75	-	-	-	50	125	2
			Total	15	5	6	250	75	75	500	100	1000	24

* Usually relevant topic with the syllabus taught in 1st and 2nd semester will be given to each student. He /She will be asked to make a presentation in seminar period.

Elective-II and III

01. Design of Thermal Systems
02. Solar Energy Utilisation
03. Conditioned Environment and Ventilation
04. Energy Management
05. Theory and Design of Gas Turbine
06. Air Conditioning System Design
07. Thermal Measurements
08. Waste Heat Recovery

Elective-II and III

09. Renewable Energy Systems
10. Air Craft and Rocket Propulsion
11. Energy Conservation and Management
12. Nuclear Power Generation and Safety
13. Alternative Fuels for I. C. Engines
14. Financial Evaluation of Renewable Energy Technology
15. Advanced Turbo machinery
16. Thermal System Simulation and Design

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M. Tech. in Mechanical Engineering with specialization in Thermal Engineering Started in 2010													
Course of Study & Scheme of Examination										M. Tech. <i>Third</i> Semester		Branch: Mechanical	
S. No.	Board of Studies	Course Code	Subject Name	Periods / week			Examination Scheme					Total Marks	Credits $L+(T+P)/2$
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical		Preliminary work on Dissertation	-	-	24	100	-	-	-	200	300	12
2	Mechanical		Comprehensive Viva Voce & Seminar	-	-	-	-	-	-	-	200	200	4
			Total	0	0	24	100	0	0	0	400	500	16

National Institute of Technology , Raipur (C.G.)													
M. Tech. in Mecanical Engineering with specialization in Thermal Engineering Started in 2010													
Course of Study & Scheme of Examination								M. Tech. IV Semester				Branch: Mechanical	
S. No.	Board of Studies	Course Code	Subject Name	Periods / week			Examination Scheme					Total Marks	Credits $L+(T+P)/2$
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical		Dissertation	-	-	32	200	-	-	-	300	500	16
			Total	0	0	32	200	0	0	0	300	500	16